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ABSTRACT

For years many educators have advocated school conditions that maximize human intellectual and creative potential, yet today's schools can be intellectually depressing. After identifying and describing factors that influence teachers' attitudes and experiences in education, this document explores three school climate conditions that facilitate the intellectual growth of both teachers and students: (1) a common vision of the school as a home for the mind; (2) a view of process as content; and (3) a view of the school as a community. The first condition is examined in light of faith in human intellectual potential; the development of philosophies, policies, and practices; saying "No" to distractions; communications; and tangible support. Aspects of the second condition examined include problem solving, decision making, open communication, expanding the knowledge base, and modeling. Elements of the third condition explored are collegiality; an environment of trust, appreciation and recognition; and sharing, caring, and celebrating. Last, the overall purpose of schools to enhance student thinking is reviewed. (29 references) (CLA)

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THE SCHOOL AS A HOME FOR THE MIND

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A quiet revolution is taking place across America in corporate offices, industrial factories, government offices—and in schools as well. It is a revolution of the intellect, placing a premium on our greatest natural resource, the human mind. Increasingly, those attributes of a climate conducive to intellectual growth and self-fulfillment are becoming universally recognized and accepted. The conditions that maximize creativity are being described, understood, and replicated (Perkins 1983, Kohn 1987, Deal 1987, Boyer 1988, McClure 1988, Saphier 1987). The new paradigm of industrial management emphasizes an environment in which growth and empowerment of the individual are the keys to corporate success. Pascarella writes in *The New Achievers* (1984):

> Management is heading toward a new state of mind—a new perception of its own role and that of the organization. It is slowly moving from seeking power to empowering others, from controlling people to enabling them to be creative.... As managers make a fundamental shift in values...the corporation undergoes a radical reorientation to a greater world view.

Many educators have advocated similar school conditions for years, believing that a climate which maximizes human potential can be developed, monitored, and sustained. These conditions are equally applicable at all levels of the educational organization: classrooms, schools, and school districts.

SHAPING TEACHERS' THINKING

Many factors influence teachers' thinking as they make decisions about curriculum, instruction, and content. Their own cultural background, cognitive style, and professional values and beliefs about education all subconsciously enter their daily decision making. Knowledge of students' needs and perceptions of students' abilities and backgrounds influence teacher judgments about when to teach what to whom. The available resources for instruction—tests, materials, equipment, textbooks, and time and space—all have an impact on teachers' instructional planning.

Less obvious influences on teacher thought, but vastly more compelling, are the norms, culture, and climate of the school setting. Hidden but powerful cues emanate from the school environment. They signal the institutional value system that governs the operation of the organization (Saphier and King 1985). Similarly, classroom cues signal a hidden, implicit curriculum that influences student thinking as well.

Recent efforts to bring an intellectual focus to our schools most likely will prove futile unless we create a school environment that signals the staff, students, and community that development of the intellect is of prime importance as the school's goal. While efforts to enhance the staff's instructional competencies, develop curriculum, revise instructional materials and testing procedures, and pilot and adopt published programs are important components in implementing cognitive education, it is crucial that the school climate in which teachers make their decisions be aligned with the goals of full intellectual development.

Unfortunately, schools can be intellectually depressing, not only for students but for teachers as well. John Goodlad (1984) found that:

- Teachers are extremely isolated. They perform their craft behind closed doors and have little time within rigid daily schedules to meet, plan, observe, and talk with each other.

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- Teachers often lack a sense of power and efficacy. Some feel they are at the bottom of hierarchy while the decisions and evaluations affecting them are being made "up there" someplace.

- The complex, intelligent act of teaching is often reduced to formulas or series of steps and competencies, the uniform performance of which supposedly connotes excellence in the art and elegance of teaching.

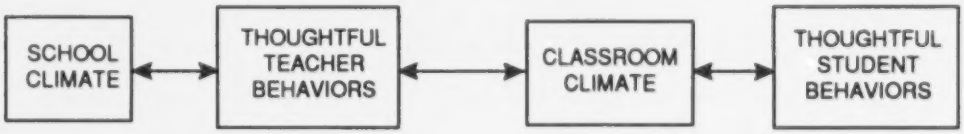
- Information about student achievement is for political, evaluative, or coercive purposes; it neither involves nor instructs the school staff members in reflecting on, evaluating, and improving curriculum and instruction.

- Educational innovations are often viewed as mere "tinkering" with the instructional program. There are so many of them, and their impact is so limited, that teachers sometimes feel, "If I do nothing, this, too, shall pass." Instead of institutionalizing change, traditional practices and policies so deeply entrenched in the educational bureaucracy remain static. Testing, reporting, securing parent understanding and support, teacher evaluation, scheduling, school organization, and discipline procedures are seldom revised to harmonize with the overall innovation.

When such a dismal school climate exists, teachers understandably become depressed. Their vivid imagination, altruism, creativity, and intellectual prowess may soon succumb to the humdrum dailiness of unruly students, irrelevant curriculum, impersonal surroundings, and equally disinterested co-workers. Under such conditions, the likelihood that teachers will value the development of students' intellect is marginal.

TOWARD THE SCHOOL AS A HOME FOR THE MIND

Teachers are more likely to teach for thinking in an intellectually stimulating environment. When the conditions in which teachers work signal, promote, and facilitate their intellectual growth, they will gradually align their classrooms and instruction to promote student's intellectual growth as well. As teachers teach students to think, become more aware of conditions that promote student thinking, and become more powerful thinkers themselves, they will demand and create school climate conditions that are intellectually growth-producing as well. Thus, respect for intelligent behavior grows to pervade all levels of the institution.



Three climate conditions, in particular, facilitate intellectual growth: (1) all participants share a common vision of the school as a home for the mind, (2) the process of thinking is the content of curriculum and instruction, and (3) schools and classrooms are interdependent communities. These conditions provide a sharper image of a climate for thinking in schools and classrooms that are dedicated to becoming homes for the mind.

A COMMON VISION

Effective organizations are characterized by a deep sense of purposefulness and a vision of the future. Members at all levels share a commitment to that vision, a sense of ownership, and an internal responsibility for performance (Harmon 1988). This shared vision is evident in several ways.

Faith in Human Intellectual Potential

In a school that is a home for the mind there is an inherent faith that all people can continue to improve their intellectual capacities throughout life; that learning to think is as valid a goal for the "at-risk,"

the handicapped, the disadvantaged, and the foreign-speaking as it is for the "gifted and talented"; and that all of us have the potential for even greater creativity and intellectual power. Students, teachers, and administrators realize that learning to use and continually refine their intelligent behavior is the purpose of their life-long education. Such a belief is expressed in many ways.

Thinking is valued not only for all students and certificated staff, but for the classified staff as well. A principal of a "thinking school" in Davis, California, reported that a newly hired custodian constantly asked her to check on how well he was cleaning the classrooms and to tell him whether he was doing an adequate job. She decided to help him develop a clear mental image of what a clean classroom looked like and then worked to enhance his ability to evaluate for himself how well the room he cleaned fit that image.

School staff members continue to define and clarify thinking as a goal and seek ways to gain assistance in achieving it. Their commitment is reinforced when they are able to report and share progress toward installing thinking in their schools and classrooms. The superintendent of Manheim Township in Lancaster, Pennsylvania, reviews with site administrators their long-range goals and progress toward including the development of intelligent behaviors in the school's mission. In classrooms in Wayzata, Minnesota, students keep journals and periodically report new insights about their own creative problem-solving strategies.

Philosophy, Policies, and Practices

The vision is also expressed in the district's board-adopted mission statement, purposes, and policies. In Hopkins, Minnesota, enhancing intelligent behavior is explicitly stated in the school district's adopted philosophy and mission. District policies and practices are constantly scrutinized for their consistency with and contribution to that philosophy. Evidence of their use as criteria for decision making is examined. Furthermore, procedures for continuing to study, refine, and improve district-wide practices encourage schools to keep growing toward more thoughtful practice.

Personnel practices, for example, reflect the desire to infuse thinking. Job specifications for hiring new personnel include skills in teaching thinking. Teachers are empowered to make decisions that affect their jobs. Supervision, evaluation, and staff development practices enhance the perceptions and intellectual growth of certificated staff and honor their role as professional decision-makers (Costa and Garmston 1985; Costa, Garmston, and Lambert 1988).

Selection criteria for texts, tests, instructional materials, and other media include their contribution to thinking. Counseling, discipline, library, and psychological services are constantly evaluated for their enhancement of and consistency with thoughtful practice.

In schools and classrooms, discipline practices appeal to students' thoughtful behavior. Students participate in generating rational and compassionate classroom and school rules and continually strive to evaluate their own behavior in relation to those criteria (Curwin and Mendler 1988).

Protecting What's Important—Saying "No" to Distractions

Sometimes our vision of the desired school is temporarily blurred or obscured. We are distracted from our intellectual focus by fads, bandwagons, other educational "panaceas," and by pressures from public and vocal special-interest groups. Our purposes may be temporarily clouded by politically and financially expedient decisions. We must ignore all of these distractions as irrelevant to our central issue.

On the other hand, we need to encourage philosophical discussion because it gives voice to alternative views. Considering other perspectives—as expressed in such books as Bloom's CLOSING OF THE AMERICAN Mind (1987), Ravitch and Finn's WHAT DO OUR 17-YEAR-OLDS KNOW? (1987), and Hirsch's CULTURAL LITERACY (1987)—creates tensions, honors divergent thinking, and expands and

refines our vision. Such discussion encourages staff members to include modes of thinking and inquiring in their definition of literacy. Discussion strengthens the staff's commitment to the principle that to learn anything—to gain cultural literacy or basic skills—requires an engagement of the mind.

Knowing that thinking is the important goal, all inhabitants of the school believe that their right to think will be protected. District leaders keep this primary goal in focus as they make day-to-day decisions. Teachers' rights to be involved in the decisions affecting them are protected, as are the rights of those who choose not to be involved in decision making.

Since change and growth are viewed as intellectual processes, not events, we value the time invested in ownership, commitment, and learning.

Communications

Embedded in an organization's communications are expressions of what it prizes. Pick up any newspaper and you see a reflection of society's values in its major sections: sports, business and finance, and entertainment.

As a school becomes a home for the mind, the vision increasingly pervades all of its communications. In Palmdale, California and Pinellas Park, Florida report cards, parent conferences, and other progress reports include indicators of the growth of students' intelligent behaviors: questioning, metacognition, flexibility of thinking, persistence, listening to others' points of view, and creativity (Costa 1985b).

Growth in student's thinking abilities is assessed and reported in numerous ways, including teacher-made tests, structured observations, and interviews. Students maintain journals to record their own thinking and metacognition; they share, compare, and evaluate their own growth of insight, creativity, and problem-solving strategies over time. Parents, too, look for ways in which their children are transferring intellectual growth from the classroom to family and home situations. In Westover Elementary school in Stamford, Connecticut, portfolios of students' work show how their organizational abilities, conceptual development, and creativity are growing. Test scores report such critical thinking skills as vocabulary growth, syllogistic thinking, reasoning by analogy, problem solving, and fluency.

Parents and community members in Sorento, Illinois, receive newspaper articles, calendars, and newsletters informing them of the school's intent and ways they can engage children's intellect (Diamandis and Obermark 1987-1988). "The Rational Enquirer" is the name given to the Auburn, Washington School District's Thinking Skills network newsletter. In Verona, Wisconsin, parents attend evening meetings to learn how to enhance their children's intelligent capacities and behaviors (Feldman 1986).

Mottoes, slogans, and mission statements are visible everywhere. "LINCOLN SCHOOLS ARE THOUGHT-FULL SCHOOLS" is painted on one district's delivery trucks for all to see. In the Plymouth-Canton, Michigan, Public Schools, the superintendent distributes bookmarks reminding the community that thinking is the schools' goal; "THOUGHT TAUGHT AT HUNTINGTON BEACH HIGH" is emblazoned on that school's note pads. "MAKING THINKING HAPPEN" is printed on Calvin Coolidge Elementary School's letterhead in Shrewsbury, Massachusetts. "THINKING SPOKEN HERE" is a constant classroom reminder of Stockton, California, history teacher Dan Theile's explicit goals for students. "WE'RE TRAINING OUR BRAINS" is the motto on buttons proudly produced, sold, and worn by the special education students at Jamestown, Pennsylvania, Elementary School.

Tangible Support

How teachers, school administrators, and other leadership personnel expend their valuable and limited resources—time, energy, and money—signals the organization's value system. The Hanford, California, School Board provides a profound example of this point. The Board requires elementary school principals to spend 50 percent of their time in curriculum and instructionally related activities. To ensure that this happens administrative assistants were hired to provide support for principals.

The school that is becoming a home for the mind allocates financial resources to promote thinking. Irvine, California Schools hired a full-time thinking skills resource teacher. Substitutes are hired so that teachers can be released to visit and coach each other. Staff members and parents are sent to workshops, courses, conferences, and in-service sessions to learn more about effective thinking and the teaching of thinking.

Instructional materials and programs related to thinking are purchased, and time is provided to plan for and to train teachers in the use of these materials and to gather evidence of their effectiveness. Consultants discuss and report new learnings about intellectual development and implications for program improvement. Vignettes and "critical incidents" are recorded, described, and analyzed as indicators of students' application of critical and creative thinking skills and dispositions.

Administrators use their time and energy to visit classrooms to learn more about and to coach instruction in thinking. Teachers spend time planning lessons and observing each other teach for thinking. Time in classrooms, as well, is allocated to thinking skills and talking about thinking.

Thus, we see that the whole school community—students, teachers, administrators, classified personnel, board members, and parents—share a common vision of the school as a home for the mind. They continually work to sharpen that image, to clarify their goals, and to align daily practices with that vision of the future.

PROCESS AS CONTENT

In the school that is becoming a home for the mind, development of the intellect, learning to learn, knowledge production, metacognition, decision making, creativity, and problem solving are the subject matter of instruction. Content is selected because of its contribution to process and thus becomes a vehicle for thinking processes.

Problem Solving, Decision Making, and Open Communication

Being committed to the improvement of intellectual growth, everyone in the school is willing to discuss their strategies for improving school climate, interpersonal relationships, and the quality of their interactions and problem solving. Students and school personnel practice, evaluate, and improve their listening skills of paraphrasing, empathizing, and clarifying and understanding.

At school board, administrative, and faculty meetings, decision-making processes are discussed, explained, and adopted. Process observers are invited to give feedback about the group's effectiveness and growth in decision-making, consensus-seeking, and communication skills.

Each group member's opinions and questions are respected. Disagreements are stated without fear of damaging relationships. Debates and critical assessment of alternate points of view are encouraged. Responsibility for "errors, omissions, and inadequacies" is accepted without blaming others. Responses are given and justified, and new ideas are advanced without fear of criticism or judgment. Group members' differing priorities, values, logic, and philosophical beliefs become the topics of analysis, dialogue, understanding, and further questions.

Continuing to Learn—Expanding the Knowledge Base

Knowledge about thinking and the teaching of thinking is vast, complex, uncertain, and incomplete (Marzano, Brandt, Hughes, Jones, Presseisen, Rankin, and Suhor 1987). We will never know it all, nor would we wish to reduce teaching thinking to a simplistic, step-by-step lesson plan (Brandt 1987). In a school that is a home for the mind, the inhabitants continually expand their knowledge base: gaining more content, learning more about learning, and thinking more about thinking. They add to their repertoire of instructional skills and strategies, seeking greater diversity rather than conformity.

Knowing that the school's mission is to develop the intellect, teachers increasingly strive to invest thoughtful learning, craftsmanship, metacognition, and rigor into curriculum and instruction. They expand their repertoire of instructional skills and strategies to develop a wide range of reasoning, creative, and cooperative abilities in students.

Teachers increase their knowledge of the sciences, math, and humanities because it helps them ask more provocative questions that invite inquiry and critical thinking. A wider knowledge base supports the transfer of concepts across several subject areas and encourages appreciation for the disciplined methodologies of great thinkers throughout history.

Teachers draw from their growing repertoire of knowledge about instructional techniques and strategies to make decisions based on goals, students' characteristics, and the context in which they are working. They vary their lesson designs according to students' developmental levels, cognitive styles, and modality preferences (Jones 1987).

While their students expand their range of intelligent behaviors, teachers and administrators improve their own thinking skills and strategies by pursuing course work in philosophy, logic, and critical thinking. Thinking skills include not only knowing how to perform specific thought processes (Beyer 1985) but also knowing what to do when solutions to problems are not immediately known; study skills and learning-to-learn, reasoning, problem-solving, and decision-making strategies are important (Marzano and Arredondo 1986). Teachers and administrators learn about their own cognitive styles and how to cooperate with and value others who have differing styles. They learn how to cause their own "creative juices" to flow through brainstorming, inventing metaphor, synectics, and concept mapping.

Modeling

Thinking is probably best learned through imitation and emulation of good thinkers. Adults in the school that is becoming a home for the mind try to model the same qualities and behaviors they want students to develop. Teachers and administrators share their metacognitive strategies in the presence of students and others as they teach, plan, and solve problems (Jones 1987).

Staff members restrain their impulsiveness during emotional crises. They listen to students, parents, and each other with empathy, precision, and understanding. They reflect on and evaluate their own behaviors to make them more consistent with the core value that thoughtful behavior is a valid goal of education.

THE SCHOOL AS A COMMUNITY

Humans, as social beings, mature intellectually in reciprocal relationships with other people. Vygotsky (1978) points out that the higher functions actually originate in interactions with others.

> Every function in...cultural development appears twice: first, on the social level, and later on the individual level; first between people (interpsychological), and then inside (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation concepts. All the higher functions originate as actual relationships between individuals.

Together, individuals generate and discuss ideas, eliciting thinking that surpasses individual effort. Together and privately, they express different perspectives, agree and disagree, point out and resolve discrepancies, and weigh alternatives. Because people grow by this process, collegiality is a crucial climate factor.

Collegiality

The essence of collegiality is that people in the school community are working together to better understand the nature of intelligent behavior. Professional collegiality at the district level is evident when

administrators form support groups to assist each other; when teachers and administrators from different schools, subject areas, and grade levels form networks to coordinate efforts to enhance intelligent behavior across all content areas and in district policies and practices. Committees and advisory groups assess staff needs, identify and locate talent, and participate in destrict level prioritizing and decision making. They support and provide liaison with school site efforts; plan districtwide inservice and articulation to enhance teachers' skills; and develop an aligned, coordinated, and developmentally appropriate curriculum for students.

Selection committees for instructional materials review and recommend adoption of materials and programs to enhance students' thinking. Through districtwide networks, teachers share information and materials and teach each other about skills, techniques, and strategies they have found to be effective. The staff at Tigard, Oregon, call this "Think Link."

In schools, teachers plan, prepare, and evaluate teaching materials. In St. Paul, Minnesota, teachers visit each other's classrooms frequently to coach and give feedback about the relationship between their instructional decisions and student behaviors. In Chugiak, Alaska, high school teachers are members of "instructional skills teams." Together they prepare, develop, remodel, and rehearse lessons. They then observe, coach, and give feedback to each other about their lessons.

Teachers and administrators continue to discuss and refine their vision of the school as a home for the mind. Definitions of thinking and the teaching and evaluation of students' intellectual progress are continually clarified. Child-study teams keep portfolios of students' work and discuss each student's developmental thought processes and learning styles. Teams explore instructional problems and generate experimental solutions. Faculty meetings are held in classrooms where the host teacher shares instructional practices, materials, and videotaped lessons with the rest of the faculty. Teacher teams sequence, articulate, and plan for continuity, reinforcement, and assessment of thinking skills across grade levels and subject areas.

An Environment of Trust

People are more likely to engage and grow in higher-level, creative, and experimental thought when they are in a trusting, risk-taking climate (Kohn 1987). MacLean's (1978) concept of the triune brain illuminates the need for operating in an environment of trust. For the neo-mammalian brain (the neo-cortex) to become fully engaged in its functions of problem solving, hypotheses formation, experimentation, and creativity, the reptilian brain (R-Complex) and the paleomammalian brain (Limbic System) need to be in harmony. Under stress or trauma, the more basic survival needs demanded by the reptilian brain and the emotional security and personal identity required by the paleomammalian brain can override and disrupt the more complex neo-cortical functioning.

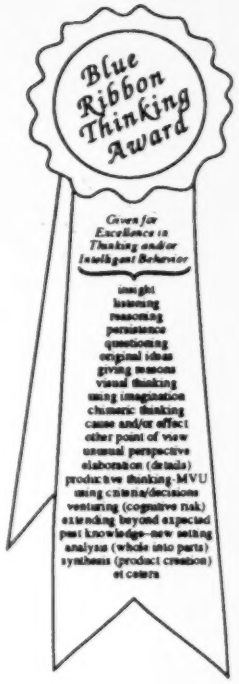
Because higher-order thinking is valued as a goal for everyone in the school, the school's climate is monitored continually for signs of stress that might close down complex and creative thinking. Risk-taking requires a nonjudgmental atmosphere where information can be shared without fear that it will be used to evaluate success or failure.

A climate of trust is evident when experiments are conducted with lesson designs, instructional sequences, and teaching materials to determine their effects on small groups of students (or with colleagues before they're used with a group). Various published programs and curriculums are pilot-tested, and evidence is gathered over time of the effects on students' growth in thinking skills. Teachers become researchers when alternate classroom arrangements and instructional strategies are tested and colleagues observe student interactions.

Appreciation and Recognition

Whether a work of art, athletic prowess, acts of heroism, or precious jewels, what is valued in society is given public recognition. Core values are communicated when people see what is appreciated. If thinking is valued, it, too, is recognized by appreciation expressed to students and to teachers and administrators as well.

Students are recognized for persevering, striving for precision and accuracy, cooperating, considering another person's point of view, planning ahead, and expressing empathy. Students applaud each other for acts of ingenuity, compassion, and persistence. The products of their creativity, cooperation, and thoughtful investigation are displayed throughout the school.



Teachers at Wasatch Elementary School in Salt Lake City award blue ribbons to students who display intelligent behaviors. Similarly, teachers in East Orange, New Jersey, give certificates for "good thinking."

One form of appreciation is to invite teachers to describe their successes and unique ways of organizing for teaching thinking. In faculty meetings, teachers share videotaped lessons and showcase the positive results of their lesson planning, strategic teaching, and experimentation.

Schools within the district receive banners, flags, trophies, or certificates of excellence for their persistence, thoughtful actions, creativity, cooperative efforts, or meritorious service to the community. Some schools have even established a "Thinkers Hall of Fame."

Sharing, Caring, and Celebrating

Thinking skills are pervasive in schools that value thinking. They are visible in the traditions, celebrations, and everyday events of school life.

Staff members are often overheard sharing humerous anecdotes of students who display their thought processes. ("I saw two 7th grade boys on the athletic field yesterday ready to start duking it out. Before I could get to them, another boy intervened and said, 'Hey, you guys, restrain your impulsivity.'")

Teachers and administrators share personal, humerous, and sometimes embarrassing anecdotes of their own problems with thinking (tactics for remembering peoples' names, finding their car in the parking lot, or solving the dilemma of locking the keys in the car.)

At career days, local business and industry leaders describe what reasoning, creative problem-solving, and cooperative skills are needed in various jobs. At school assemblies, students and teachers are honored for acts of creativity, cooperation, thoughtfulness, innovation, and scholarly accomplishments. Academic decathlons, thinking and science fairs, problem-solving tournaments, dialogical debates, invention conventions, art exhibits, and musical programs all celebrate the benefits of strategic planning, careful research, insightfulness, sustained practice, and cooperative efforts.

THE ULTIMATE PURPOSE: ENHANCING STUDENT THINKING

A common vision, process as content, and the school as a community are not ends in themselves. We must constantly remind ourselves that the reason we construct our schools is to serve our youth.

As cornerstones and building blocks of school climate are gradually cemented into a sturdy foundation, teachers will in turn create a classroom with corresponding climate factors that recognize and support growth in students' intelligent behaviors.

The vision of education as the development of critical thinking abilities is evident as students deliberate and persevere in their problem solving, as they work to make their oral and written work more precise and accurate, as they consider others' points of view, as they generate questions, and as they explore the alternatives and consequences of their actions. Students engage in increasingly rigorous learning

increasingly complex forms of problem solving.

Since such processes of thinking as problem solving, strategic reasoning, and decision making are explicitly stated as the content of lessons, they become the "tasks that students are on." The metacognitive processes engaged in while learning and applying the knowledge are discussed. Thus students' thinking becomes more conscious, more reflective, more efficient, more flexible, and more transferable.

Collegiality is evident as students work together cooperatively with their "study-buddies," in learning groups, and in peer problem solving. In class meetings, students are observed learning to set goals, establish plans, and set priorities. They generate, hold, and apply criteria for assessing the growth of their own thoughtful behavior. They take risks, experiment with ideas, share thinking strategies (metacognition), and venture forth with creative thoughts without fear of being judged. Value judgments and criticisms are replaced by accepting, listening, empathizing with, and clarifying each other's ideas (Costa 1985a).

The Greeks had a word for it: paideia. The term, popularized by Adler's PROPOSAL (1983), is an ideal concept we share: a school in which learning, fulfillment, and becoming more humane are the primary goals for all students, faculty, and support staff. It is the Athenian concept of a learning society in which self-development, intellectual empowerment, and life-long learning are esteemed core values and all institutions within the culture are constructed to contribute to those goals.

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